

Description of some New Species of Beetles (Scarabæidæ) from Central America. By D. SHARP, Esq. (Communicated by H. W. BATES, Esq., F.L.S.)

[Read November 2, 1876.]

SOME little while ago, Mr. Belt placed in my hands for examination the collection of Scarabæidæ (*i. e.* Lamellicorn Coleoptera) made by him during his residence in Nicaragua, the species being, I believe, chiefly captured in the neighbourhood of Chontales. Our collections are tolerably rich in the insects of this family found in Columbia and Venezuela and the northern parts of the continent of South America, and in the Mexican species of the family; but the fauna of the intervening district of Central America is still very poorly represented in most of our British collections of Coleoptera. Mr. Belt's captures are therefore of considerable interest. On examining the Lamellicorns, I found (as was to be expected) that the species are allied to both the South-American and Mexican forms of the family, but that a considerable portion appear to be new or undescribed. The collection intrusted to me consisted of 419 individuals, representing apparently about one hundred and fifty species; and of these I consider that probably fifty or thereabouts are still undescribed. As a large number of the novelties belong to groups of which the study is attended with much difficulty (*e. g.* genera *Ancylonycha*, *Cyclocephala*, *Sphæromorphus*, *Atænius*), and are represented only by one or two individuals of each species, it would perhaps be undesirable to attempt to describe them *seriatim*; but I have selected a few species of which I think descriptions may be published with advantage. I have added also three species from my own collection from the same districts, two of which require special notice; they are the species I have called *Phalangogonia sperata* and *P. stipes*. The genus *Phalangogonia* is of special interest, owing to its differing greatly from the allied Rutelidæ found in these parts of America, and to its approaching very closely to the Australian Anoplognathi. The single species of which the genus is hitherto composed, viz. the *Phalangogonia obesa*, Burmeister, is extremely rare, and is, in fact, unknown in most even of the best collections. Burmeister described the species, apparently on a single individual, which he considered to be a male, but which, I am pretty sure, from his description, was a female. Lacordaire has figured a species in the Atlas to his 'Genera des Coléoptères,' pl. xxxv. fig. 1, which he calls *Phalangogonia obesa*, Burm.; this

figure certainly represents a female individual, and, I think, very probably a species distinct from Burmeister's *P. obesa*. Of each of the two species I here describe, I have seen but a single individual, one of which is male, the other female, the sexual disparities being remarkable: had these two individuals been found together, or in the same district, I should have considered it probable that they were the sexes of one and the same species; but as this was not the case, I have thought it better to consider them at present as two distinct species. It would appear probable, then, that *Phalangogonia obesa*, Burm., is a Mexican species, of which the female only is described, that *P. obesa*, Lacordaire (*l. c.*), is a representation of a female of an allied Mexican species, while *P. sperata*, Sharp, is a Central-American species described from a single male individual, and *P. stipes*, Sharp, is possibly only a female variety thereof.

Among the more interesting species represented in Mr. Belt's collection are:—*Megathopa candezei*, of which an admirable diagnosis has been recently given by Baron von Harold, but which, I think, would have been better treated as a distinct new genus, between *Megathopa* and *Canthon*; a beautiful *Plusiotis*, which M. Boucard calls a variety of *P. aurora*; a form allied to *Pelidnota*, and another to *Chlorota*, both perhaps really new genera, but represented only by single individuals; *Podischnus terisander*, Burm., which I have never seen before, but which undoubtedly is a distinct species from the common *P. agenor*; the very remarkable *Amblyodon nicaraguæ*, Westwood, which is the male of *Phileurus nasicornis*, Burm., or at any rate a closely allied species; a pair of the very rare *Lycomedes reichei*; a series of *Allorhina anomala*, Bates, showing that the species varies in size from 19 to 26 millims., and greatly in the development of the pale markings, the thorax being in one individual entirely bordered with a pale yellow marking; a series of *Gymnetis ramulosa*, Bates, in which the transverse pale mark of the elytra is alike in no two individuals, and shows also a sexual disparity; and a pair of the elegant *Dialithus magnificus*, in one individual the elytra being black, while in the other they are red.

ONTHOPHAGUS TAPIRUS, n. sp. Thorace in utroque sexu mutico.

Subdepressus, nigro-æneus, nitidus, capite et thorace magis æneis, pedibus piceis; thorace sparsim, minus fortiter punctato, elytris evidenter striatis, interstitiis impunctatis; pygidio fortiter punctato.

Long $5\frac{1}{2}$ –7 millim.

Mas clypeo apice prolongato et recurvato, processu apice transversim valde dilatato, genis dilatatis; tibiis anterioribus sat elongatis.

Fem. clypeo apice acute bidentato, capite crebre sat fortiter punctato.

The antennæ are reddish at the base, with the club infusate. The thorax is about $2\frac{2}{3}$ millims. in length, and about $3\frac{1}{2}$ broad, and is of a brilliant and shining brassy colour; it is distinctly punctured at the front angles, and more indistinctly about the middle; but on the basal portion the punctures are nearly absent. The elytra are smooth and shining, and destitute of any punctuation or pubescence. The pygidium is coarsely punctured, and bears scanty, short, stout, erect, pale setæ. The metasternum in the middle is brassy, and is only sparingly punctured; the punctures are rather coarse on its lateral parts, but indistinct elsewhere; the under surface is destitute of pubescence, except that the apical segments of the hind body bear a few setæ. The front tibiæ are distinctly quadridentate.

This is a very distinct species from any other I know; but Von Harold has recently published, under the name of *Onthophagus sharpi*, a species which appears to connect *O. tapirus* with the *O. nasicornis* group.

Two other specimens found by Mr. Belt are of a bluish-black colour, and have the clypeus in front produced into a short, broad, simple process, and are probably a distinctly allied new species.

ISONYCHUS PICTUS, n. sp. Olivaceo-pubescens, elytris maculis magnis nigris, antennis rufis clava fusca, pygidio rufescente, pedibus nigris. Long. 13 millim.

Clypeus black, with a faint brassy tinge, without pubescence, but with a few erect hairs, and bearing rough elevated tubercles instead of punctures. Thorax entirely clothed with a yellowish olive pubescence, which quite conceals the sculpture. Elytra also clothed with a dense olivaceous pubescence, but with some very large and distinct black spots, three along the suture and three at the side, more or less confluent: the sculpture is concealed by the pubescence; but they are finely yet distinctly striated.

In the male the front tibiæ are slightly more slender, and the club of the antennæ more elongate, than in the female, the pygidium is rather shorter and is more closely punctured, the apical ventral segment is impressed in the middle, the impression being roughly punctured and free from pubescence.

This striking species is probably allied to *Isonychus maculatus*, C. Waterhouse, from Medellin, in Columbia.

FAULA CENTRALIS, n. sp. Fusco-nigra, sericeo-opaca, pallide griseo-setosa, antennis pedibusque rufescentibus; thorace elytris que fortiter punctatis, illo area longitudinali, his lineis duabus elevatis.

Mas major, antennis pedibusque elongatis, clypeo anterieus magis reflexo et emarginato, tarsis omnibus crassioribus et subtus magis pilosis; pygidio elongato, abdominis apice deflexo-prominulo, medio late subimpresso; corpore subtus fere opaco. Long. $12\frac{1}{2}$ millim.

Fem. minor, pedibus antennisque brevibus, clypeo anterieus vix emarginato, tarsis omnibus simplicibus; pygidio brevi, apice utrinque sinuato; abdomine convexo; corpore subtus nitido. Long. $9\frac{1}{2}$ -11 millim.

In this species the thorax is coarsely punctured, but has a central space along the middle a little elevated and free from punctures; this space is narrow and indistinct on the front part of the thorax, but is very distinct on the hinder part. With the exception of this there are no other distinct spaces on the thorax free from punctures, though the punctures are unevenly distributed: the base of the thorax is distinctly prominent on each side of the scutellum, and is also slightly prominent in the middle. The front edge of the scutellum is raised, and is emarginate in the middle; but the scutellum bears no longitudinal impression, and is more densely covered with pale setæ than are the other parts.

I have a closely allied but smaller species from Brazil, which I believe is also undescribed.

PELIDNOTA BELTI, n. sp. Elongata, angustula, viridi-ænea, supra nitidissima, nuda, subtus parcius subtiliter griseo-pubescent, femoribus nigro-viridibus, tibiis rufis apice nigricantibus, tarsis nigro-cæruleis.

Mas major, pedibus longioribus et crassioribus. Long. 21 millim., lat. 10 millim.

Head rather coarsely and closely punctured, clypeus notched in front, the notch a little deeper in the female than in the male, the side-projections in the male very slightly, in the female more distinctly, reflexed. Thorax very smooth and shining, bearing evenly scattered, distant, fine punctures. Scutellum almost impunctate. Elytra with very fine and indistinct punctures, very shining. Pygidium densely and finely rugose, opaque, clothed with a short and fine pale pubescence. Under surface greenish, clothed at the sides with a fine and scanty pale pubescence, which is very indistinct on the sides of the ventral segments. Postcoxal process of prosternum broad and short, subhorizontal. Mesosternal process elongate.

This handsome insect is allied to *Pelidnota cupripes*, but is very distinct from it or any other *Pelidnota*; and I have much pleasure in naming it in honour of its discoverer.

Obs. One of the specimens brought back by Mr. Belt is of a brassy instead of a brilliant green colour, but it otherwise does not differ.

PELIDNOTA PROLIXA, n. sp. Elongata, angusta, supra testacea, vel

castanea, pedibus antennisque concoloribus; subtus fuscula; clypeo antice obtuso; thorace margine basali argute elevato; elytris impunctatis, sat nitidis. Long. 27 millim., lat. $13\frac{1}{2}$ millim.

Head densely punctured; clypeus slightly prolonged, quite obtuse in front, and with its margin slightly reflexed. Thorax very transverse, with the basal and lateral margins acutely defined, the front margin obsolete in the middle: the surface is but little shining, and its punctation, though rather close, is indefinite, and at the sides becomes dense, confluent, and still less distinct. The scutellum is finely but distinctly punctured. The elytra are without sculpture, but are little shining, their surface having the appearance of very delicate leather. The pygidium is densely and finely rugose, and dull. The under surface is much darker than the upper; the postcoxal process of the prosternum is elongate, subperpendicular; the mesosternal process is distinctly prominent and projects beyond the edge of the coxæ.

This species may be readily distinguished amongst its allies by its elongate form and its impunctate elytra and acutely elevated basal margin of the thorax. I think the individuals I have seen are females. The species appears best placed at present near the North-American *P. quadripunctata*, from which (independently of colour and form) it is readily distinguished by the more elongate and perpendicular postcoxal process of the prosternum.

ANTICHIRA GRATIOSA, n. sp. Supra læte viridis, haud metallica, subtus viridi metallescens, epipleuris cupreis; scutello minore; elytris fere impunctatis, et estriatis; pectore parcissime pubescente, lateribus fortiter strigulosis; mesosterni processu elongato, paullulum descendente, sed apicem versus fortiter recurvato. Long. corp. 25-30 millim.

Clypeus rather elongate and narrow towards the front, its front margin distinctly reflexed, obscurely truncate in the middle: the punctures on the clypeus are dense near the front, become more sparing on the posterior part, and are very fine and scanty on the vertex. Thorax short and rather small, the base in front of the scutellum truncate, but not emarginate; the surface bears a few not very distinct punctures, which towards the sides, however, are more numerous and rather more distinct. Scutellum 4-5 millims. long, and about 4 millims. broad at the extreme base. Elytra without distinct sculpture, and with only very obscure indications of striae. Pygidium rather coarsely strigose. Underside more metallic than the upper, it being of a green colour with a distinct golden or brassy tinge, appearing at first destitute of pubescence, but bearing a few fine hairs on the sides of the metasternum. The legs are slender and concolorous with the under surface; the basal portion of the epipleuræ is of a coppery colour, and shows, therefore, a distinct contrast with the rest of the surface.

I see no indication of sexual character, except that in one individual (which is, I suppose, a male) the pygidium is rather longer and narrower.

This species is allied to *A. prasina* and *A. psittacina*, Burm.; and I have also in my collection a species of *Thyridium* from Columbia which so extremely resembles *A. gratiosa* that, without examination of its generic characters, it would be considered conspecific with the Nicaraguan insect.

PHALANGOGONIA SPERATA, n. sp. Supra fulvo-testacea, nitida, elytris pallidioribus, subtus cum pedibus chocolatina, pectore utrinque densius pubescente; elytris subtiliter punctatis; mesosterni processu sat elongato. Long. 27 millim.

Clypeus with the front margin a little rounded, densely and finely rugose, so as to be dull; the vertex sparingly punctured. Thorax on the middle very finely and very sparingly punctured, at the sides more closely punctured, but the punctures very indistinct. Elytra finely and sparingly punctured, but the punctures more distinct than those on the thorax, the punctures are not arranged in rows, and there are no striæ; but on careful examination there are seen indications of two longitudinal smooth spaces limited by fine punctures. The under surface is of a uniform chocolate-colour.

Central America. A single specimen from W. W. Saunders's collection.

The individual described is, no doubt, a male; all the tarsi are stout, and the three basal joints on the four posterior ones are densely clothed beneath with setæ; the front tibiæ are very stout, and their upper tooth obsolete, the two lower ones moderately prominent: the hind tibiæ are stout, but are not broader at the extremity than in the middle, and show outwardly only a few coarse punctures.

P. STIPES, n. sp. Supra fulvo-testacea, nitida, elytris pallidioribus, subtus rufescens, abdomine nigricante, pectore utrinque densius pubescente; elytris subtiliter punctatis, mesosterni processu sat elongato. Long. 26 millim.

Nicaragua. A single individual from the collection of W. W. Saunders.

This species is very closely allied to the preceding, and, it is possible, may prove a variety of its female; but it has the mesosternal process considerably more elongate, and the longitudinal spaces on the elytra are more distinct, the colour of the under surface is darker and less unicolorous, the ventral segments being black; the hind femora, which, like the rest of the legs, are reddish, have a black patch on the middle.

The individual described is no doubt a female; the front and middle tarsi are rather slender; but the hind ones are stout, and their basal joint is much thickened and produced at the extremity on the upperside; the front tibiæ are rather stout, their two lower teeth very large, and the upper one quite distinct. The hind legs are short but thick, their tibiæ much broader at the extremity and very coarsely punctured externally.

CYCLOCEPHALA CONSPICUA, n. sp. Rubra, fere nuda; capite, pectoris lateribus pedibusque nigris; thorace vittis duabus, elytris lateribus, fascia lata basali alteraque pone medium interrupta nigris. Long. $17\frac{1}{2}$ millim.

Head entirely black, rather coarsely punctured; clypeus short and broad, $2\frac{1}{2}$ millims. broad in the middle, $1\frac{2}{3}$ millim. long, its front margin nearly straight, being only very slightly emarginate in the middle. Thorax bright red, with a black elongate mark on each side the middle, rather sparingly but coarsely punctured, except on the middle, where the punctures are finer. Scutellum red, with a few indistinct punctures. Elytra broadly black at the base, also black at the sides, and behind the middle with a very large transverse black mark which does not reach the suture, but is joined to the lateral black. They are moderately closely, but not deeply, punctured; and the punctures leave only very indistinct traces of longitudinal spaces. Pygidium and hind body, as well as the middle of the metasternum, red. Prosternal process closely applied to the coxæ; when its apex is looked at, it appears to consist of two parts, viz. an anterior part, and a posterior part, which is crescentic and fringed behind with long hairs. In the male the front tarsi are a good deal thickened, the punctuation of the elytra is much finer than in the female, the pygidium is larger, and is nearly entirely rugose, while in the female its sculpture is much less. The female has on the edge of each elytron, behind the middle, a very small prominence.

This species is allied to the Mexican *C. picta*, Burm.; but the markings on the elytra are very different, and the clypeus is rather more developed.

C. PROBA, n. sp. Transversim convexa, picea, nitida, supra nuda; thorace elytris angustiore, lateribus pone medium subsinuatis, parce punctato; elytris fortiter punctato-striatis, punctis ocellatis: pygidio nitido, fortiter punctato. Long. 17-20 millim.

Clypeus broad and short, 3 millims. broad across the middle, $1\frac{2}{3}$ millim. long, its front margin very slightly emarginate in the middle, the front angles greatly rounded, rather closely but indistinctly punctured, the punctures obsolete towards the front. Thorax $5\frac{1}{2}$ millims. long, $7\frac{1}{2}$

millims. broad, the sides not evenly rounded, but broadest in the middle, and contracted and slightly sinuate towards the hind angles, which are obtuse but quite distinct; it is very shining, and bears sparing coarse punctures, which are largest and most distinct near the front angles, and become quite fine on the middle. Scutellum broad, very sparingly and indistinctly punctured. Elytra with rows of coarse punctures, each of which is seen on examination to consist of an outer ring, and a central portion, which generally has a minute dot in the middle. Pygidium not rugose, but coarsely punctured. Propygidium partly exposed, and coarsely and very densely punctured. Sides of the metasternum closely punctured and bearing erect hairs. Prosternal process quite perpendicular, its extremity slender and not closely applied to the legs; last ventral segment very deeply depressed at the base.

In the male the apical ventral segment is excessively short, being reduced to a mere transverse band: there is no trace of tubercle on the sides of the elytra in the female. I cannot speak of the front tarsi of the male, as they are broken off in all the specimens I have seen.

This species is allied to *C. variolosa*, Burm.

COTINIS ADSPERSA, n. sp. Supra olivacea, opaca, squamulis albidis adspersa; subtus cuprea squamulis adspersa, et fulvo-pubescens, abdomine medio lævigato; clypeo cupreo, concavo, antè medio reflexo, parte reflexa apice angustata; vertice carina longitudinali descendente, fulvo-pubescente, apice libero, minuto; coxis posterioribus angulo externo obtuso. Long. 22 millim.

Head on the upperside coppery, hollow, the front margin reflexed, the reflexed part short and narrow at its apex, the vertex with a strongly elevated carina, the upper edge of which is not at all flattened, and its extremity free and projecting and depressed; the sides of this carina and the parts near it are clothed with coarse, outstanding, yellow hairs. Thorax of an obscure olivaceous colour, quite dull, with some scattered rudimentary or incomplete punctures, each of which bears a coarse white scale. The base is strongly lobed in the middle, but leaves an elongate portion of the scutellum exposed. Elytra similar in colour to the thorax, with scarcely any traces of elevations (except the apical protuberance of each wing-case), and appearing at first impunctate, but really with fine scattered punctures, each of which bears an elongate white scale; these scales, however, are very easily removed. Pygidium rather densely clothed with erect narrow scales of a pale yellowish colour. Underside brassy and shining, but the ground-colour obscured by the plentiful hairs, these being particularly abundant on the front and middle femora; there are also white scales on the femora, as well as on the sides of the body; mesosternal process

short and obtuse, very pubescent in front. The front tibiæ are slender, and show only indistinct indications of teeth.

In the male the pygidium and last ventral segment are rather longer than in the female, and the legs are rather longer and more slender.

There was only a single individual of this species in Mr. Belt's collection; but I have a fine specimen in my own collection from Central America. The species is allied to *Cotinis pulverulenta*, Burm.; but that species is not half the size, and is said to have the front tibiæ sharply three-toothed.

COTINIS GRACILIS, n. sp. Supra opaca, olivacea, subtus sat nitida, cuprea, undique squamulis parvis adspersa; clypeo antè sat reflexo, medio vix prolongato, vertice obscure longitudinaliter elevato, elevationis apice distincto; tibiis anterioribus gracilibus, muticis; coxis posterioribus angulo externo obtuso. Long. 16 millim.

Clypeus with the front margin distinctly elevated, and with a broad short prominence on the middle, vertex obscurely elevated along the middle, the apex of this obscure elevation, however, is quite distinct and prominent, owing to the depression of the clypeus in front of it. Thorax with scattered coarse punctures, in each of which is placed a round pale scale. Elytra similar in colour to the thorax, each with two obscure longitudinal elevations, and with distant fine punctures, which are almost arranged in rows, and each of which is covered by a pale scale. Pygidium rather closely clothed with whitish subdepressed scales or coarse setæ. Under surface brassy, with but little pubescence, but with numerous coarse pale scales. Anterior tibiæ slender and without teeth.

The specimen described is, no doubt, a male, and was found in Honduras by Mr. Dyson. The species is allied to *C. adspersa*, but is much smaller, and has the carina of the vertex obsolete instead of sharply elevated. It must also be allied to *C. pulverulenta*, Burm.; but, from the description, that species has the front tibiæ sharply three-toothed, and the carina of the vertex more distinct.

EUPHORIA BELTI, n. sp. Olivaceo-viridis, nitidissima, supra nuda, tarsis nigris; clypeo antè angustato, margine anteriore reflexo et emarginato, fronte late subimprensa; elytris parce punctatis. Long. 20-23 millim.

Head small, the clypeus distinctly narrowed in front, and the front margin prolonged and reflexed, and emarginate in the middle, so as to be almost bidentate; the upper part of the head is a good deal depressed in the middle and coarsely punctured; and this impression is obscurely divided into two by the middle being slightly elevated. The thorax is very shining, and is short in proportion to the width; it is

only sparingly punctured; the middle part, indeed, is almost free from punctures. Scutellum large, quite impunctate. Elytra only finely and sparingly punctured, the punctures arranged almost in lines, the sides towards the apex and the apex strigose. Pygidium strigose, but shining. Under surface green; sides of the breast with scanty pale hairs and coarsely strigose, the centre smooth and shining. The mesosternal process very short and broad, densely pubescent along its front. Front tibiæ acutely tridentate.

This species is allied to *Cetonia fulgida*, Fab. (genus *Erirhipis*, Burm.), but is larger, without pale marks, and has the head differently shaped.

Though I have examined a series of ten individuals of this species, I see no indications of any external sexual distinctions.

Geographical Distribution of Indian Freshwater Fishes.—Part I.
The Acanthopterygii, Spiny-rayed Teleostean Fishes. By
FRANCIS DAY, F.L.S., F.Z.S., &c.

[Read December 7, 1876.]

DURING comparatively recent times much interest has been manifested regarding the geographical distribution of the fauna of India, and arguments have been adduced to demonstrate the predominance in it of the Malayan or African element.

As a small contribution to the facts which are being accumulated, I propose a consideration of the distribution of the freshwater fishes, believing they must afford evidence upon which some conclusions may be based. My limits will be Hindustan proper, including the Punjab and Sind, as well as Ceylon, Assam, Burma, the Andamans, and the Nicobars.

The freshwater fishes consist:—

- (1) Of those which reside entirely in fresh water.
- (2) Of those which enter it from the sea for breeding or predaceous purposes.

The second will be briefly considered, and only when the species belongs to a genus which likewise inhabits fresh water. In such instances it will be necessary to trace out every species of which the genus is composed.